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ON THE TERMS *CYMA RECTA* AND *CYMA REVERSA*

THE terms *cyma recta* and *cyma reversa* are so universally used by English writers to designate two forms of mouldings that we have accepted them without hesitation. Recently, however, a German critic of an American book has raised the question whether this usage is correct. He doubtless had in mind that the Greek word *κῦμα* is always, and the Latin *cyma*, presumably, neuter. Whence comes it, therefore, that we use the feminine form and are we right in doing so?

Let us briefly trace the history of these terms, sketching first the Greek and Latin usage. (Figs. 1 and 2.)

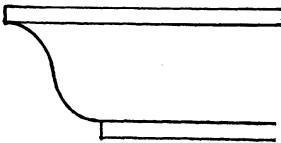


FIGURE 1.—THE *CYMA RECTA*.

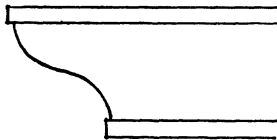


FIGURE 2.—THE *CYMA REVERSA*.

The Greek word *κῦμα* occurs, apparently, only once in an architectural sense and that in a fragmentary passage from the *Thalamopoioi* of Aeschylus:—

ἀλλ' <εἶ> ὁ μὲν τις Λέσβιον φατνώματι
κῦμ' ἐν τριγώνοις ἐκπεραίνεται ῥυθμοῖς.¹

It is interesting to note that the term *Lesbian cyma* is here used by a poet of the fifth century B.C., a man who could lay no specific claim to architectural knowledge.

¹ Nauck, *T.G.F.*² p. 26.

Another type of *κῦμα*, in all probability so designated by the Greeks, was the *Doric cyma*, *Δώριον κῦμα* or *Δωρικὸν κῦμα*. Aeschylus distinguishes the Lesbian cyma by means of its decoration, as a rhythmical sequence of triangular leaves. (Fig. 3.) The *Doric cyma* could be similarly distinguished by its decoration consisting of broad rectangular leaves. (Fig. 4.)

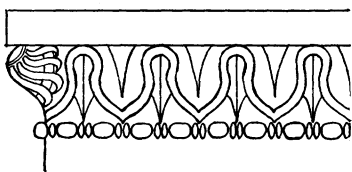


FIGURE 3.—THE LESBIAN CYMA.

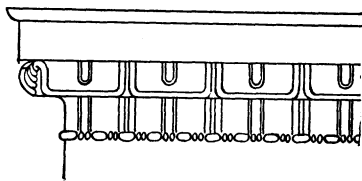


FIGURE 4.—THE DORIC CYMA.

The term *κῦμα* implies a bulging form and often means a wave. When applied to a moulding it is natural for us to assume that it originally indicated a specific form, probably of an undulatory character.

The word *κυμάτιον*, to designate a moulding, is found several times in the well-known Erechtheum inscription (*I.G.* I, 322 and 324). It occurs also in the Septuagint (Exodus xxv. 11, 24, 25), where it evidently means the crowning moulding of the Ark and of the Table of Shew-bread. But in none of these cases is the wave-like form of the moulding necessarily implied.

Another word, *σίμαι*, was employed by the Greeks of the Alexandrian period. Hesychius (*Lex. s.v. σίμαι*) defines it vaguely as *ἐν ταῖς ὀροφαῖς θέσεις τινές*. Vitruvius (*De Arch.* 82, 7) defines this word more specifically as “*quas graeci ἐπαιετίδας dicunt*.” The *sima*, therefore, is the roof-moulding. It invariably crowned the raking cornice of the gable and frequently also the horizontal cornice. Its form varied according to period and locality.

In Latin the word *cyma* occurs as a feminine as well as a neuter noun, but apparently never in an architectural sense. Vitruvius makes no use of the word *cyma*, but he frequently

employs the diminutive *cymatium* for mouldings of various forms and in various applications. In all cases he appears to have in mind the location rather than the form of the moulding. It is essentially a terminal and usually a crowning moulding. This at least is the one common property of the *cymatium* of the abacus, of the epistyle, of the frieze, of the dentils, of the cornice. Similarly, the *cymatium* of the Ionic capital may be considered the crowning moulding of the shaft, and in the case of doorways the *cymatia*¹ of the *antepagmenta*, of the *supercilium*, of the *hyperthyrum*, and of the *corona* are all terminal or crowning mouldings of various forms. Vitruvius also mentions the *cymatium doricum* and the *cymatium lesbium* (*De Arch.* 92, 21; 97, 11, 16), but does not define the distinction. It is likely that he distinguished these forms, as did Aeschylus, chiefly by their decoration. Once only Vitruvius speaks of a moulding as an *unda* (*De Arch.* 118, 16). This is the precise Latin equivalent of the Greek *κύμα*, and in using it he may have been conscious of the wave-like form. But neither here nor elsewhere is there suggested the distinction between an *unda recta* and *unda reversa*. This distinction was reserved for a later period.

In the Byzantine and Mediaeval period the word *κύμα* as an architectural term does not occur. At least it is not mentioned by Sophocles in his *Greek Lexicon of the Roman and Byzantine Period*. *κυμάτιον* occurs, as we have seen, in the Septuagint version of Exodus xxv. 11, 24, 25, but the Vulgate translation by the word *corona* conveys no indication of a specific form of moulding. The word *σίμαι* also was apparently forgotten. As a matter of fact, the wave-moulding is not a characteristic form in Byzantine and Early Mediaeval architecture, and does not reappear in the history of architecture until the Gothic period. In Flamboyant or Decorated, and in Perpendicular or Late Gothic, the wave-moulding appears, sometimes in complicated forms, and is known as the ogee moulding.²

¹ Cf. Nohl, *Index Vitruvianus*, s.v. *cymatium*.

² Paley, *Manual of Gothic Mouldings*, London, 1877, p. 50.

The architects of the Renaissance in Italy derived their terminology in part from Vitruvius and in part from current usage. The Greek word *κύμα* was not used by Vitruvius, nor does it appear to have descended into the Italian popular language. But its Latin equivalent *unda*, or rather *undula*, is used occasionally by Alberti.¹ In the Italian translation of Alberti's work by Bartoli it appears as *onda*. The word *cymatium* survived, both as a Latin word, spelled *cimatium* (Alberti), or *cimacium* (Scamozzi); and in the vernacular as *cimatio* (Alberti), *cimagine* (Filarete), *cimasa* (Bartoli). It was used, however, in the Vitruvian sense of a crowning moulding, and its original significance as a little wave-moulding seems to have been forgotten. Thus Alberti in 1452 (*l.c.*) defined *cimatium* as "quidem supremum cuiusque particulae liniamentum," and Filarete (1464) in his *Trattato della Architettura*:² "ma questo primo membro ci chiama cimagine, perchè sempre ci metta disopra, cioè nella cima degli altri membri della cornice." Similarly, Bartoli in his translation, shows that Alberti evidently connected the word *cimasa* with the word *cima*.

In the popular language the form of the wave-moulding was described as a *gola* or throat moulding. Alberti calls it in Latin *gulula* and defines its origin (*l.c.*), "jugulum enim hominis imitatur." He was followed by Filarete (*l.c.*) "e chiamasi la forma sua *ghola*, perchè quasi sta coma una *ghola*, che abbi un pocco di grosso disotto al mento." Henceforth all the great Italian architects make use of the term *gola* and *goletta*.

It is to Alberti that we owe the distinction between the two forms which we call *cyma recta* and *cyma reversa*. In the chapter to which we have already referred, he discusses the forms of mouldings, comparing them to the forms of letters. Thus, the roundel resembles the letter C placed beneath the letter L, and the *cavetto* is like the letter C reversed. Similarly, the

¹ Alberti, *De re aedificatoria*, written 1452, pub. 1482, Lib. VII, cap. VII, "ex flexionis similitudine appellabitur undula."

² Cf. *Quellenschriften für Kunstgeschichte*, Neue Folge, iii. Bd. pp. 285-287.

letter S beneath the letter L, thus (Fig. 5) describes the form which he calls *gulula* (Ital. *goletta*, *intavolato*), and the moulding which resembles the letter S reversed (Fig. 6) he designates as *undula* (Ital. *onda*, *gola*). Alberti had thus enunciated the distinction between the two forms of mouldings, but his terminology did not survive. Vignola, Palladio, and Scamozzi

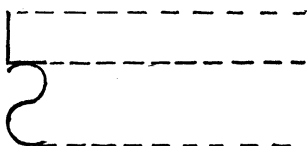


FIGURE 5. — THE GULULA.

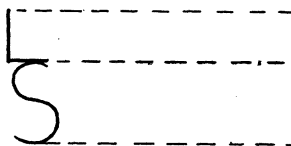


FIGURE 6. — THE UNDULA.

all wrote in the vernacular, and in speaking of these two forms of mouldings designated them by the word *gola* and discarded the term *undula*. Thus we find in Vignola¹ the distinction between the *gola diritta* and the *gola roverscia*.

Similarly Palladio² distinguishes the *gola diritta* and the *gola reversa*. Scamozzi³ speaks frequently of the *gola diritta*. The word *sima* is very rarely used by the Renaissance architects.

The influence of the Italian Renaissance terminology has extended to modern times, the classic terms sometimes struggling for existence. Thus in Italy the terms *gola* and *gula* still survive, but *cimasa* and *cimagio* are more frequently used. In France the terms *gueule droite* and *gueule renversée* (Ital. *gula diritta* and *gula reversa*) have already an archaic flavor, *cymaise* or *cimaise*, and even *simaise droite* and *renversée*, occurring more frequently, while a still more national spirit is shown by calling these mouldings by the names *doucine* (*cyma recta*) and *talon* (*cyma reversa*).

In Germany we find a varied terminology. *Kyma* occurs as a neuter noun, especially to express the distinction between the

¹ Vignola, *Regola della cinque Ordine* (1563), Rome, 1602, pls. 7, 8, 14.

² Palladio, *I Quattro Libri dell' Architettura*, Venice, 1570, pp. 26, 35.

³ Scamozzi, *L'Idea dell' Architettura Universale* (1607), Milan, 1838, p. 116.

Dorisches Kyma and the *Lesbisches Kyma*.¹ *Kymation* is also frequently used and *umgekehrtes Kymation* for the inverted forms.² Some writers, like Constantin Uhde,³ prefer the words *Sima* and *Karnies* to describe the *cyma recta* and *cyma reversa* used in crowning mouldings and the terms *die gestürzte Sima* and *der gestürzte Karnies* for the inverted forms used in basal mouldings. German patriotism, however, leads others to use such words as *Welle*, *Rinnleiste*, *Traufleiste*; hence we have for *cyma recta*, *die Steigende Welle*, and for *cyma reversa*, *die verkehrt steigende Welle*, and for the inverted forms *die fallende Welle* or *Sturzrinne* and *die verkehrte fallende Welle* or *Glockenleiste*.⁴ In Müller and Mothes, *Archaeologisches Wörterbuch* (s.v. *Cyma* and *Karnies*), *cyma recta* and *cyma reversa* are given as Latin terms, but it is safe to say that they are very rarely used by German writers.

It will be seen from the current European terminology that the words *cyma recta* and *cyma reversa* represent a usage practically confined to England and to English-speaking people. How then did these terms come to be adopted in England? So far as our researches go, it came about in this way. In 1715 an Italian named Giacomo Leoni was brought over to England by Lord Burlington to assist in the translation of the architectural works of Palladio, published in that year. This English edition of Palladio, subsequently republished with annotations of Inigo Jones, had no little influence on English architects and architectural terminology. Leoni also published in 1726 an edition of Alberti's *Ten Books on Architecture*, and must have been acquainted with Alberti's derivation of *cimatium* from *cima*. Accordingly, in his translation of Palladio, for *gola recta* and *reversa*, Leoni substitutes *cima recta* and *cima reversa* in his descriptions of the Tuscan, Doric, and Ionic cornices.⁵

¹ Meyer, *Konvers*, *Lex.*, s.v. *Kyma*.

² Boetticher, *Die Tektonik der Hellenen*, Berlin, 1874, pp. 64, 119.

³ *Die Konstruktionen und die Kunstformen der Architektur*, Berlin, 1902.

⁴ Busch, *Die Baustile*, Berlin, 1878, p. 16.

⁵ *The Architecture of Palladio*, edited by Leoni, with remarks by Inigo Jones, 3d ed., London, 1742, p. 15, pls. 12, 16, 22.

The word *cima* meaning a summit or crown was current not only in Italy but in parts of France and in Spain.¹ According to Littré it is to be identified with the feminine form of the Latin *cyma*, and the same identification was made by English writers. Thus, Stuart and Revett in 1762 speak of the *cyma reversa*;² James Elmer in 1826³ defines the "two sorts of *cymae*," the *cyma recta* and the *cyma reversa*. Later special and general dictionaries such as Gwilt,⁴ the *Encyclopaedia Britannica*, the *Century Dictionary*, Harper's *Dictionary of Classical Literature and Antiquities*, and Russell Sturgis's *Dictionary of Architecture*, all preserve the distinction and the spelling of *cyma recta* and *cyma reversa*, which has been current in England for two hundred years.

Thus we see how through a slight modification in spelling our language has cherished the older Latin rather than the more modern Italian form. This occurred naturally in a country like England where Latin was cultivated much more assiduously than was Italian. It was natural also that the conservative Englishman, accustomed as he is to the use of sexless nouns, when he found that the feminine *cyma*, -*ae*, was quite as orthodox as the neuter *cyma*, -*atis*, should not busy himself with an attempt to reform the Latin language. It is true that apparently a new and architectural signification has been given to the Latin word *cyma*, but, on the other hand, we should not forget that our knowledge of Latin architectural terminology is based almost exclusively on a single treatise by Vitruvius, and that other architects may well have used the word *cyma*, whereas he contented himself with the diminutive *cymatium*.

ALLAN MARQUAND.

PRINCETON UNIVERSITY.

¹ Cf. Littré, *Dictionnaire*, s.v. *cime*.

² *Antiquities of Athens*, vol. I, p. 6.

³ *Dictionary of the Fine Arts*, s.v. *cyma*.

⁴ Gwilt, *Encyclopedia of Architecture*, London, 1842.